IN THE CLAIMS:

Claim 1 (Currently amended): A method for modification and isolation of a protein~~, especially whey or soy proteins, characterized in that~~ comprising:

a) providing a protein selected from the group consisting of ~~such as~~ whey ~~or~~ and soy proteins;~~, or concentrate thereof, is brought into contact with~~

b) providing a reagent that forms sulfite ions ~~in order to sulfonate the protein without using oxidizing agent, and~~;

c) mixing the protein with the reagent under a condition to sulfonate the protein without using an oxidizing agent and to obtain a mixture containing a sulfonated protein;

~~b)~~d) precipitating the sulfonated protein ~~once sulfonated is precipitated~~ at an acid pH to form a precipitated sulfonated protein and a soluble sulfonated protein~~,~~; and

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~~c)~~e) recovering the precipitated sulfonated protein or ~~the precipitated and/or~~ the soluble sulfonated protein ~~is recovered and optionally processed further~~.

Claim 2 (Currently amended) A method according to claim 1, ~~characterized in that whey or a concentrate thereof is brought into contact~~ wherein the protein is a whey protein and the whey protein is mixed with ~~a~~ the reagent ~~that forms sulfite ions in order to sulfonate the protein~~ at a temperature in a range of 40 – 65 °C~~, preferred is 50 – 60 °C~~.

Claim 3 (Currently amended) A method according to claim ~~1 or~~ 2, ~~characterized in that~~ wherein the whey protein is in a form of a concentrate and has a ~~content of the whey concentrate is~~ concentration of 9 – 12% by weight.

Claim 4 (Currently amended) A method according to claim 1, ~~characterized in that~~ wherein the protein is a soy protein ~~or a concentrate thereof is brought into contact~~ and the soy protein is mixed with ~~a~~ the reagent ~~that forms sulfite ions in~~

~~order to sulfonate the protein~~ at a temperature in a range of 60 - 80 °C, ~~preferred is 65 - 75 °C~~.

Claim 5 (Currently amended) A method according to claim 1, 2, or 4, ~~characterized in that at (a)~~ wherein the mixing step (c) is carried out at ~~the~~ a pH ~~is adjusted to 5,5 – 8~~ in a range from 5.5 to 8, ~~preferred is 6 – 7~~.

Claim 6 (Currently amended) A method according to ~~one~~ claim 5, ~~characterized in that in the sulfonation in stage (a)~~ wherein the reagent comprises sulfite ~~is used at~~ having a concentration ~~of 0,02 – 0,20~~ from 0.02 M to 0.20 M, ~~preferred is 0,05 – 0,10 M~~.

Claim 7 (Currently amended) A method according to claim 1, ~~characterized in that the~~ wherein a degree of sulfonation ~~degree~~ of the protein is affected by ~~varying~~ reaction conditions and amount of reagents used.

Claim 8 (Currently amended) A method according to claim 1, ~~characterized in that~~ wherein the sulfonated ~~proteins are~~ protein is precipitated as fractions of varying composition by adjusting the pH.

Claim 9 (Currently amended) A method according to claim 8, ~~characterized in that~~ wherein the sulfonated ~~proteins are~~ protein is precipitated by lowering the pH to 1.5 - 5.5 ~~1,5 – 5,5, preferred is 4,0 – 5,0~~.

Claim 10 (Currently amended) A method according to claim 1, ~~characterized in that~~ further comprising a step of removing sulfone groups from the sulfonated ~~proteins or from the precipitated and/or soluble sulfonated protein the sulfone groups are removed and from the same solution~~ protein and the ~~sulfites~~ sulfite ions that did not react with the protein, the removing step comprising ~~by~~ lowering the pH to about ~~1,5 – 4~~ 1.5 - 4, whereby ~~both~~ the sulfone groups and the sulfite ions are liberated as sulfur dioxide and free sulfhydryl groups are created in the protein.

Claim 11 (Currently amended) A method according to claim 1 or claim 10, ~~characterized in that~~ further comprising a step of oxidizing ~~remaining~~ the sulfite ions that did not react with the protein ~~is oxidized~~ to sulfate by blowing air into the mixture at pH 4 – 7.

Claim 12 (Currently amended) A method according to claim ~~1~~ 10, ~~characterized in that~~ further comprising a step of ~~disulfide groups are formed again from the free sulfhydryl groups by~~ blowing air into the ~~protein~~ mixture at pH ~~4,5 – 8,5~~ 4.5-8.5 and at a temperature of 45 - 75°C to form disulfide groups from the free sulfhydryl groups in the protein.

Claim 13 (New): A method of claim 1, wherein the protein is in a form of a concentrate.

Claim 14 (New): A method of claim 2, wherein the temperature is in the range from 50°C to 60°C.

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Claim 15 (New): A method of claim 4, wherein the temperature is in the range from 65°C to 75°C.

Claim 16 (New): A method of Claim 5, wherein the pH of the mixing step (c) is in a range from 6 to 7.

Claim 17 (New): A method of Claim 6, wherein the concentration of sulfite is from 0.05M to 0.10 M.

Claim 18 (New): A method of Claim 9, wherein the pH is in a range from 4.0 to 5.0.